



Surveillance Report

PACIFIC HAKE MIDWATER TRAWL FISHERY

USA EEZ Waters

Certificate No.: TVI-F-09004

Canadian EEZ Waters

Certificate No.: TVI-F-09005

Moody Marine Ltd.

21 September 2010

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1.0 GENERAL INFORMATION

Scope against which the surveillance is undertaken: MSC Principles and Criteria for Sustainable Fishing as applied to the PACIFIC HAKE MID-WATER TRAWL FISHERY.

Species: *Merluccius productus*

Area: US Pacific EEZ waters of Washington, Oregon and California and Canadian Pacific EEZ waters

Method of capture: Midwater trawl

Date of Surveillance Visit:	20 – 21 September 2010			
US Fisheries Initial Certification	Date: 13th October 2009	Certificate Ref: TVI-F-09004		
Canadian Fishery Initial Certification	Date: 13th October 2009	Certificate Ref: TVI-F-09005		
Surveillance stage	1st	2nd	3rd	4th
Surveillance team:	Lead Assessor: Steven Devitt Assessors: Mark Pedersen, Max Stocker			
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2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

This report contains the findings of the first surveillance audit in relation to the Pacific Hake mid-water trawl fishery in the US EEZ off Washington Oregon and California and the EEZ off the Pacific Coast of Canada. The surveillance audit was carried out in accordance with the Marine Stewardship Council (MSC) Fisheries Certification Methodology (FCM) Version 6.

An announcement of the surveillance site visit was published on the MSC website on 7th September, 2010 advising stakeholders that the first annual surveillance audit site visit would take place on the 20 – 21st September (See appendix A) in Seattle, Washington.

The surveillance team –Steve Devitt and Mark Pedersen - met with members of the client group including Jan Jacobs and Dan Waldeck of the Pacific Whiting Conservation Cooperative, and Shannon Mann, representing the Canadian client, the Association of Pacific Hake Fishermen on September 20th. The following day, the team met with Ian Stewart and Owen Hamel of NOAA fisheries and conducted teleconference interviews with Mike Burner of the Pacific Fisheries Management Council and Mike Censi of Washington Department of Fish and Wildlife Enforcement Division.

Subsequent teleconference interviews were conducted with John DeVore of PFMC on September 23 and Greg Workman, Barry Ackerman, Chris Grandin and Robin Forrest of Fisheries and Oceans Canada on September 27. Additional follow up information requested by the team was received from Fisheries and Oceans on November 8th. Information and evidence was gathered on the status of the stock, the performance of the fishery throughout the year, measures to meet the Conditions of Certification and changes in management.

The following section is set out as a table within which general information about the status of the stock and the fishery for this reporting period is provided along with the surveillance team's observations, conclusions and recommendations on the current status of the fishery and the client's progress toward meeting the Conditions of Certification.

The table includes the original assessment scoring guideposts and scoring commentary and the requirements of the original Condition alongside the heading 'Activity assessed'. This identifies the areas in which the fishery was determined to perform below the level required by the MSC standard during the initial assessment, and the required actions to address these issues.

As required by the MSC assessment methodology, the clients produced an Action Plan setting out the stages involved in addressing the Conditions raised. This is set out in the table below the heading "Action Plan". The table also identifies the surveillance audit year deadline for deliverables related to closing out the conditions and identified which clients are responsible for the action plan.

According to the terms of the Action Plan, the client has provided information on the work undertaken to date.

This progress has been evaluated by the Moody Marine surveillance team and is reported for each performance indicator with a condition. The team defines the activity completed in current surveillance cycle, evaluation against the terms of the condition (milestone deliverables, timeline, results). Finally, the team identifies the status of the condition as of this surveillance audit.

The influence of any overall legislative and management changes in the fishery are also taken into consideration.

When the Condition has been judged to have been met, a re-evaluation of the scoring allocated to the relevant Performance Indicator(s) in the original MSC assessment will be included within the evaluation.

Item	Comments regarding <i>M. productus</i> off WA OR CA coast and Canadian EEZ
1	Stock status
Observations	<p data-bbox="339 296 727 327"><u>2009 Pacific Whiting Stock Status</u></p> <p data-bbox="339 354 1390 415">The following summary was adapted from the 2009 Stock Assessment of Pacific Hake in U.S. and Canadian Waters and the 2009 Joint U.S. – Canada STAR Panel Report.</p> <p data-bbox="339 447 1474 657">The joint U.S. Canada Stock Assessment Review (STAR) panel met February 3-6, 2009, in Seattle, Washington to review a draft Stock Assessment of Pacific Hake (Pacific whiting) in U.S. and Canadian Waters in 2009. After careful consideration and review of the stock assessment model, the STAR panel recommended a final base model that was a particular configuration of the Stock Synthesis III model. The Stock Synthesis III model is an age-structured stock assessment model. Age-structured assessment models of various forms have been used to assess Pacific whiting since the early 1980s; these models use data on total fishery landings, fishery length and age compositions and survey abundance indices.</p> <p data-bbox="339 688 1468 993">The final base model used for the 2009 stock assessment built on the 2008 model, but included new data and refined the modelling of aging imprecision. The primary differences between the 2008 and 2009 stock-assessment models are that the 2009 assessment included more flexibility in modeling fishery selectivity, improves the manner in which aging errors are handled, and freely estimated the level of recruitment variability (recruitment is the number of fish in the youngest age class (age 1) that enter the fishery each year). The following new data were incorporated into the 2009 stock assessment: historical length data from Santa Barbara, California (1963-1970); 2008 catches from the U.S. and Canada; and 2008 length and conditional age-at-length compositions from the U.S. and Canada. In combination, these model changes and additional data produced a large downward shift in the absolute scale of Pacific whiting biomass estimate.</p> <p data-bbox="339 1024 1468 1178">Imprecisely estimated stock assessment parameters are expected to change as new data are added or when changes are made to the model's structure. The 2009 stock assessment did not show an obvious retrospective pattern. The retrospective analysis was conducted by systematically removing the terminal years' (2008-2001) data, one after the other, for eight years. An obvious retrospective pattern is not a desirable characteristic and would indicate a pathological model misspecification.</p> <p data-bbox="339 1209 1474 1514">In general, Pacific whiting is a very productive species with highly variable recruitment and a relatively short life span when compared to most other groundfish species. The base model indicates that the Pacific whiting female spawning biomass declined rapidly after a peak in 1984. The decline continued until 2000 and was followed by a brief increase to a peak in 2003 as the large 1999 year class matured (fish spawned during a particular year are referred to as a year class). The stock biomass at the beginning of 2009 is estimated to be at 32 percent of the estimated unfished spawning biomass. The revised estimate of the 2008 spawning biomass is 51 percent lower than the estimate from the previous assessment, reflecting a downward revision in the estimated absolute scale of the Pacific whiting biomass. However, a revised estimate of the 2008 depletion level is 41 percent, which is slightly higher than the 38 percent estimated by the 2008 assessment.</p> <p data-bbox="339 1545 1468 1818">The 1999 year class was estimated to be the largest in the last 25 years and has supported fishery catches since 2002. Although the 1999 year class is still available to the fishery, the stock assessment results indicate that the biomass continues to decline as the 1999 year class moves through the fishery. Estimates of the stock status indicate that the Pacific whiting stock is at the lowest spawning biomass ever observed. Without another strong year class, the biomass is projected to further decline. The 2005 year class is believed to be reasonably strong. However, the strength of the 2005 recruitment is still very uncertain, because the last survey was in 2007, and because fewer than half of the fish younger than four are generally selected by either the survey or the fishery. Better information on the strength of the 2005 year class, as well as the 2006 year class, will be available following survey work scheduled for 2009.</p> <p data-bbox="339 1850 1406 1877">The late running of 2008 fishery in Canada caused delays in assembling Canadian fishery data. This</p>

resulted in the two alternative assessment models developed by Canadian scientists and presented in 2008 (TINSS, Martell 2008, VPA, Sinclair and Grandin 2008) to be unavailable for presentation at the February, 2009 STAR panel meeting. Both analyses were updated in February and results peer reviewed by the Canadian Center for Science Advice (CSA) Pacific Region on March 4, 2009. The results were provided to the Pacific Fisheries Management Council (PFMC) Scientific and Statistical Committee (SSC) at its meeting on March 8, 2009 for consideration.

At the Council's March 2009 meeting, the SSC reviewed the assessments and the STAR Panel report, and endorsed the use of the stock synthesis III model as the best available scientific data and recommended the use of the stock assessment in selecting harvest specifications.

The SSC also recommended using the decision table based on Markov Chain Monte Carlo (MCMC -- a computing technique used for sampling probabilistically from the possible parameterizations of the model, thus representing the uncertainty in the present state) integration of the posterior distribution for management purposes. The SSC made this recommendation because the MCMC decision table describes the Pacific whiting biomass depletion levels in probabilistic terms rather than as point estimates, and thus provides improved information on the uncertainty and risk (of both overfishing and of being overfished in any subsequent year) associated with each possible management action. The MCMC decision table is based on the distribution of possible current states of nature for the following characteristics of stock status -- the female spawning biomass, the state of depletion, and the relative state of overfishing (relative spawning potential ratio) -- generated from the MCMC modelling. Within the MCMC decision table, probabilities ranging from 5 percent to 95 percent were presented. The fifth percentile column identifies values where there is only a 5-percent likelihood of the true value being lower. Values in the 50th percentile (middle) columns are the best risk neutral characterization of current states, because there is an equal chance that the true values are either higher or lower.

ABC/OY Recommendations

Following the review of the new stock assessment results and consideration of the SSC comments and public comments, the Council recommended harvest specifications for 2009. The final Acceptable Biological Catch (ABC) and Optimum Yield (OY) values recommended by the Council for 2009 are based on a new stock assessment, and are consistent with the U.S.-Canada agreement and the impacts considered in the Final EIS for the 2009 and 2010 management measures. The following use of the term ABC is not in the same sense as in Magnuson-Stevens Act's National Standard One Guidelines. It is used as defined in the Pacific Coast Groundfish FMP. The FMP defines the ABC as the Maximum Sustainable Yield (the largest average catch that can be taken continuously from a stock under average environmental conditions) harvest level associated with the current stock abundance.

Two U.S.-Canada coastwide ABC values were considered by the Council: an ABC of 291,965 metric tons (mt) based on F40 harvest rate; and an ABC of 253,582 mt based on an estimated catch level at the center of the distribution (the median value or that which produces a 50 percent probability of overfishing). The SSC indicated that with the F40 harvest rate, the whiting biomass would be expected to fluctuate at a level below B40 (the biomass level set out in the FMP as that at which a stock is estimated to be able to maintain its maximum sustainable yield over time). The value that the SSC identified as being the better estimate of ABC was 253,582 mt because the amount corresponds to the 50th percentile of the MCMC distribution. Following public testimony and Council deliberation, the Council recommended adoption of a U.S.-Canada coastwide ABC of 253,582 mt, the U.S. share of the ABC being 187,346 mt (73.88 percent of the coastwide ABC) and the Canadian share being 66,236 mt (26.12%).

The range of U.S.-Canada coastwide OY values considered by the Council at its March meeting included: a high OY of 365,784 mt, which is a constant harvest option based on the status quo harvest in 2008; an OY of 253,582 mt, which approximates to a 40-10 harvest policy with a higher ABC (the 40-10 harvest policy is used to set OYs for species that are below B40 and not managed under overfished species rebuilding plans); a constant catch OY for 2009 of 215,000 mt, which is an amount that has a greater than 50 percent probability that the stock depletion will fall below the overfished level by the beginning of 2010; a constant catch OY for 2009 of 184,000 mt which is the maximum harvest amount that maintains a

greater than 50 percent probability of the stock remaining above B25 (the overfished threshold) by the beginning of 2010; an OY of 137,526 mt based on the results of an alternative stock assessment model and the application of the 40-10 harvest policy; and 100,000 mt, the maximum constant catch amount that keeps the female spawning biomass from further decline over the next two years.

The high OY of 365,784 mt was not a viable alternative because it is expected to result in a greater than 50 percent probability of overfishing in 2009 and the stock being overfished by 2010. Under the Magnuson-Stevens Act National Standards, the choice of OY and the conservation and management measures proposed to achieve it must prevent overfishing. An OY of 253,582 mt is equal to the recommended ABC and is without the precautionary adjustments that are made to the OYs when a stock's biomass is less than B40. Although an OY of 253,582 mt approximates the 40-10 harvest policy value for the maximum likelihood model, which had a higher ABC, the SSC expressed concern that given the variability in the Pacific whiting recruitment, the biomass could be expected to fluctuate below the overfished threshold (B25). With an OY higher than 184,000 mt there would be a greater than 50 percent probability of the stock being overfished in 2010. The 2009 assessment indicates that with a U.S.-Canada OY of 184,000 mt or less there is a greater than 50 percent probability that the Pacific whiting biomass will stay above the overfished threshold throughout 2009.

Following deliberation and public testimony, the Council recommended adopting a U.S.-Canada coastwide OY of 184,000 mt with a corresponding U.S. OY of 135,939 mt and Canadian TAC of 48,061 mt for 2009. In making the OY recommendation, the Council expressed concern about the risk of the stock falling into the overfished category. The Council recommended this level to prevent overfishing, and to provide greater than a 50-percent probability that the stock will not be overfished at the beginning of 2010. The Council recommended this level with the understanding that through surveys conducted in 2009, there would be a much better understanding of the relative strength of the 2005 year class, as well as the 2006 year class, leading to better indicators of the overall abundance of Pacific whiting. The harvest will be adjusted next year, based on new information, taking into account the status of the stock at that time. Given the variation in the stock assessment results between years, the Council felt that this OY value for 2009 was a conservative approach. In reaching a conclusion, the Council also considered how reductions in OY greater than this level would negatively impact fishers and processors, due to the fact that Pacific whiting is the most abundant stock in the Pacific coast groundfish fishery and generates the highest value.

2009 U.S. Fishery

Allocations

In 1994, the U.S. formally recognized that the four Washington coastal treaty Indian tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish in the Pacific Ocean. A tribal allocation (set-aside) is subtracted from the species OY before limited entry and open access allocations are derived.

Since 1996, only the Makah Tribe has prosecuted the tribal fishery for Pacific whiting. However, for the 2009-2010 harvest specification cycle, three of the four coastal tribes indicated their intent to participate in the fishery at some point during the two-year period. The Quinault Nation indicated their intent to start fishing in 2010, and both the Quileute and Makah Tribes indicated they intended to fish in both 2009 and 2010.

2009 whiting allocations and set-asides:

2009 Coastwide ABC	253,582
2009 Coastwide OY	184,000
2009 U.S. OY	135,937
Research and Incidental allocation	4,000

Amount available to whiting fishery	131,937
Tribal allocation	31,789
Non-Tribal allocation	100,148
Shore-based sector	42,063
Catcher-processor sector	34,051
Mothership sector	24,034

Rockfish Bycatch Limits

Bycatch limits have been used to restrict the catch of overfished species, particularly canary, darkblotched, and widow rockfish, in the non-tribal Pacific whiting fisheries. With bycatch limits, the industry has the opportunity to harvest a larger Pacific whiting OY, providing the incidental catch of overfished species does not exceed the adopted bycatch limits. In recent years, bycatch limits have been used for the most constraining overfished species: darkblotched, canary, and widow rockfish. Since 2005, a single bycatch limit for each species has been used for all non-tribal sectors of the fishery. However, for the 2009 fishery, concern that bycatch in one sector would result in the closure of a different sector of the fishery led to the implementation of sector-specific bycatch limits rather than a single bycatch limit for all commercial sectors (74 FR 9874; March 6, 2009).

If a sector-specific bycatch limit is reached or is projected to be reached, the Pacific whiting fishery for that sector will be closed, regardless of whether the Pacific whiting allocation has been achieved. When a sector is closed because a bycatch limit has been reached or was projected to be reached, unused amounts of the other bycatch limit species will be rolled-over to the remaining sectors of the non-tribal Pacific whiting fishery. If a sector reaches its whiting allocation, unused amounts of bycatch limit species will be shifted to those sectors of the non-tribal Pacific whiting fishery that remain open. Sector-specific bycatch limits are apportioned on the same percentages used to calculate the original sector whiting allocations.

2009 Bycatch limits by non-tribal sector:

Sector	Canary	Darkblotched	Widow
	Rockfish (mt)	Rockfish (mt)	Rockfish (mt)
Shore Side	7.6	10.5	105.0
Catcher/ Processors	6.1	8.5	85.0
Motherships	4.3	6.0	60.0

(Source: Federal Register: May 5, 2009; Volume 74, Number 85.)

Salmon Bycatch Management

No changes to management – 11,000 Chinook salmon threshold amount, 0.05 Chinook/mt of hake threshold rate, area closures, depth-based closures.

Re-Appportionment

Regulations at 50 CFR 660.323 (c) provide for the reapportionment of Pacific whiting allocations that the Regional Administrator determines will not be used by the end of the fishing year. The best available information on December 4, 2009 indicated that 1,325 metric tons (mt) of the shore-based sector’s allocation would not be used by December 31, 2009. Therefore, NMFS reapportioned the surplus whiting. Such reapportionments are generally disbursed to the other sectors in the same proportion as each sector’s allotted portion of the commercial OY. Because the mothership sector did not express interest in harvesting reapportioned whiting in 2009, all surplus whiting from the shore-based sector was reallocated to the catcher-processor sector. Effective December 7, 2009, 1,325 mt of Pacific whiting was reallocated from the shorebased sector to the to catcher-processor sector. The revised 2009 Pacific

whiting allocations were catcher-processor 35,376 mt; mothership 24,034 mt; and shore-based 40,738 mt.

(Source: Federal Register, December 18, 2009; Vol. 74, No. 242.)

2009 Canadian Fishery

TAC recommendations

Canada takes into consideration results of the STAR panel process, the CSA review of Canadian Assessment of Pacific Hake, the SSC discussions and recommendation, the US Council decisions and advice of Canadian hake industry stakeholders when setting the Canadian TAC.

Stakeholders include Hake Harvesters and Processors, the Association of Pacific Hake Fishermen, the Hake Consortium of BC, the Coastal Communities Network, the Groundfish Development Authority, the Province of BC, and DFO representatives from both Science and Management

In April 2009 DFO met with its advisory group to review the STAR panel deliberations, the Canadian Science Advice, the PFMC recommendations and to solicit advice for the 2009 TAC and fishery. Industry recommended Canada use the Coastwide Canada/US TAC that was adopted by the US and following the spirit of the treaty establish the Canadian TAC at 48,061 tonnes. This advice was accepted by DFO.

In addition, due to the reduced TAC, anticipated processing requirements, with priority for shoreside delivery, industry agreed not to recommend DFO allow for joint venture program for 2009.

The Canadian fishery is managed under an Individual Vessel Quota (IVQ) system as set out in the Canadian Integrated Fisheries Management Plan for Groundfish (IFMP). In-season, DFO through biweekly conference calls, monitors the progress of the fishery to date, and will seek advice on any in-season management matter that might arise. Representatives of all stakeholders participate in these bi-weekly sessions.

New for the 2009 fishery, due to the northern shift in distribution of Hake into the Queen Charlotte Sound area, DFO implemented an in-season requirement of 100% at sea monitoring (either by onboard observer or Electronic Monitoring) for hake fishing occurring off the northern half of Vancouver Island and into Queen Charlotte Sound. Vessels opting to take an observer will operate under the existing Groundfish (GF) IFMP regarding bycatch retention rules. Vessels opting to use EM, will operate under the EM program which requires 100% catch retention other than those species prohibited by license condition. All hake deliveries are subject to 100% monitoring and validation thru the Groundfish Trawl Dockside Monitoring Program (DMP).

All catch is accounted for and applied against the vessel's IVQ holdings. Groundfish trawl licence holders are accountable for all groundfish catch and responsible for ensuring sufficient IVQ holdings to cover the assigned catch that is on the vessel's groundfish trawl licence.

(Source: Addendum to 09/10 GF IFMP)

2009 U.S. Fishery Summary Results

Prior to the start of the 2009 fishery, the PFMC Enforcement Consultants (EC) reported on changes in fishing behavior during the 2008 season compared to the 2007 season. They reported that "the biggest change in fleet behavior for the 2008 season was the decrease in discarding activity." (Source: Agenda Item G.1.b, Supplemental Enforcement Consultants Report on Pacific Whiting Harvest Specifications and Management Measures for 2009. March 2009.)

For the 2009 season, the EC did not provide a report to the PFMC. However, overall results from 2009

season show that catch of overfished rockfish and ESA-listed salmon were very low, especially in comparison to their respective caps. A principal reason was the introduction in 2009 of sector-specific rockfish bycatch limits, which helped rationalize behavior in all fishery sectors.

The official dates of fishing included a standard spring start with continued fishing opportunity through the end of 2009. The MS sector season ran May 15 to June 1 (when the allocation was reached). The CP sector season ran May 15 until the end of the year. The main SS fishery ran June 15 to July 7 (when the allocation was projected to be reached). The early season SS fisheries ran: April 1 to May 14 between 42°-40°30' N. latitude and April 15 to May 14 south of 40°30' N. latitude.

Only the Makah tribe participated in the 2009 tribal whiting fishery.

Total 2009 catch of whiting, bycatch limit species, and Chinook salmon by sector is displayed in the following table.

Sectors	2009 allocation			
	Whiting (mt)	Canary Rockfish (mt)	Darkblotched Rockfish (mt)	Widow Rockfish (mt)
Shore Side	40,738	7.56	10.50	105.00
Catcher/ Processors	35,376	6.12	8.50	85.00
Motherships	24,034	4.32	6.00	60.00
Tribal	31,789	N/A	N/A	N/A
Total	131,937			

Sectors	2009 Catch				
	Whiting (mt)	Canary Rockfish (mt)	Darkblotched Rockfish (mt)	Widow Rockfish (mt)	Chinook (pieces)
Shorebased Sector	40,771	2.31	0.87	108.64	279
Catcher/ Processors	34,620	0.23	0.11	0.96	22
Motherships	24,091	0.60	0.20	24.90	296
Tribal	22,381	1.91	0.00	0.41	2,142
Total	121,863	5.05	1.18	134.91	2,739

(Source: NMFS-NWR, Pacific Whiting Fishery Summary, All Sectors, 2009.)

2009 Canadian Fishery Summary Results

The Canadian Pacific hake TAC is allocated as an individual vessel quota to vessels based on the % of the TAC held by the vessel. Licence holders are eligible to carry forward uncaught quota, to a maximum of 15% of their individual allocation, into the next year.

As set out in the tables below for the 2009 fishery, the carry forward was 14,175 tonnes from the 2008 season. The total available quota for the Canadian fleet for the 2009 fishery was 62,236 tonnes of which 56,115 tonnes were caught between April 17 and November 17, 2009.

There were 49 active vessels making 889 deliveries of shoreside quota to French Creek, Vancouver, Ucluelet, Port Alberni, Port Hardy, Prince Rupert and Westport, Washington.

All deliveries are 100% observed and validated by an independent 3rd party through the Groundfish Trawl Dockside Monitoring Program. All catch (including bycatch) is accounted for and applied against a vessel's IVQ holdings. Groundfish trawl licence holders are accountable for all groundfish catch and responsible for ensuring sufficient IVQ holdings to cover assigned catch on the vessel's groundfish trawl

licence.

Year	Summary		Season Dates		Active Vessels	
	Total Allowed Catch (mt)	Total Actual Catch (mt)	First landing Date	Last Landing Date	Joint Venture Assigned Catch	Active Shoreside Vessels
2009	62,236	56,115	17-Apr-09	17-Nov-09	26	49

Year	Actual Carryover Amounts (mt)			Carried into	Announced	Actual Allowed Catch	Carried Forward
From	Shoreside	JV	Total	Year	TAC (mt)	(mt)	(%)
2008	11,999	2,176	14,175	2009	48,061	62,236	15%

(Source: Addendum to 09/10 Gf IFMP)

(Source: Hake History 2008-2010 report provided by B. Ackerman DFO)

2010 Stock Assessment and Management

2010 Pacific Whiting Stock Status

The joint U.S.-Canada STAR panel met February 8-10, 2010 in Seattle, Washington, to review two draft stock assessment documents: one prepared by Stewart & Hamel (Stock Synthesis III model, 2010) and the second prepared by Martell (TINSS, 2010). The Stock Synthesis III model is an age-structured stock assessment model. Age-structured assessment models of various forms have been used to assess Pacific whiting since the early 1980s. The Stock Synthesis III model uses data on total fishery landings, fishery length and age compositions and survey abundance indices. The Canadian TINSS model provides an age-structured assessment that directly estimates management variables C* (the maximum sustained yield) and F* (the fishing mortality rate that produces C*).

During its deliberations, the 2010 STAR panel identified major issues with both assessments, namely whether: (a) the age and length data from the acoustic survey are an accurate representation of Pacific whiting; (b) the commercial length and conditional catch-at-age data are inconsistent with the assumptions of the models; and (c) the 1986 acoustic survey estimate is biased because the pre- and post-survey calibrations are substantially different. These issues had been raised by past STAR panels, and have also been reflected in past research recommendations. Additionally, the 2010 Pacific whiting STAR panel expressed concern about the reliability of the acoustic signal because of the presence of Humboldt squid, which has an acoustic signal similar to Pacific whiting.

The STAR Panel responded to these concerns by identifying a simpler model that did not use data it considered questionable. This led to two new model formulations. The panel considered both of these as equally acceptable, but adopted the modified TINSS model as its base model because it had the capacity to provide immediate results that quantified uncertainty.

At the March 2010 Council meeting, the Council's SSC reviewed and discussed both the revised TINSS and the original (i.e., pre-STAR Panel) Stock Synthesis III models in detail. The SSC was unable to reach consensus regarding which model formulation reflected the best available science for Pacific whiting in 2010 and put forth both models as the best available science, without assigning weights to either.

The Martell assessment showed median estimates of spawning stock biomass were relatively stable between 1966 and 1980, followed by an increase in the mid 1980s that was associated with the strong 1980 and 1984 year classes. Since the late 1980s, trends in spawning stock biomass declined to a low in 2000, then rapidly increased as the strong 1999 cohort became sexually mature. By 2002, the estimated median spawning stock biomass rebuilt to near unfished levels. Martell estimated current (end of 2009 year) depletion at 38% of unfished (95% range: 17% - 73%).

The Martell assessment estimated the harvest rate that produces a maximum sustainable yield of F53% (the harvest rate estimated to produce a spawning biomass that is 53% of its unfished spawning biomass at equilibrium), which is more conservative than the proxy FMSY harvest rate of F40%. The OY estimated in the Martell assessment using the F53% harvest rate is 339,000 mt, and projected the stock's depletion level to be 31% of the stocks unfished spawning biomass in 2011.

Stewart and Hamel estimate a current depletion of approximately 31% of the estimated unfished spawning biomass. Their estimates of uncertainty in current relative depletion range from 17% - 45% of unfished biomass. The Stewart and Hamel assessment projected that a 2010 OY of 186,000 mt under an F40% harvest rate will cause the stock to decline to B25% in 2011.

Stewart and Hamel note that the most recent length and age compositional data from the 2008-2009 U.S. fisheries and the 2009 acoustic survey indicate the presence of a relatively strong 2005 year class. Apparent also in 2009 is the emergence of another pronounced cohort at age 3 (the 2006 year class) and the continued presence of a small number of fish from the 1999 year-class, now age 10. They also note a strong and increasing presence of the 2005 year class in the Canadian fisheries in 2008 and 2009.

Specifically regarding the 2009 hydro-acoustic survey, Stewart and Hamel report that during the 2009 survey, aggregations of coastal Pacific hake were detected nearly continuously from Southern Oregon through the middle of Vancouver Island, with very few hake observed in Canadian waters. Mid-water trawl sampling revealed the presence of four clear cohorts in the hake population: individuals of age 3, 4, 6, and 10 corresponding to the 2006, 2005, 2003 and 1999 year classes. The 2009 Pacific hake age-2+ survey biomass index was just over 1.46 million mt, the second highest since 1992.

The 2009 U.S. Acoustic Survey Report stated that the "highest concentrations of Pacific hake were observed forming almost a continuous band off the Oregon and Washington coast from approximately 43°N to 47°N."

(Sources: Martell, Assessment and Management advice for Pacific hake in U.S. and Canadian waters in 2010; Stewart and Hamel, Stock Assessment of Pacific Hake, *Merluccius productus*, (a.k.a. Whiting) in U.S. and Canadian Waters in 2010; NWFSC CRUISE REPORT, CRUISE Number MF2009-03, The 2009 Integrated Acoustic and Trawl Survey of Pacific Hake (*Merluccius productus*) in U.S. Waters off the Pacific Coast.

2010 Acceptable Biological Catch (ABC)/OY Recommendations

The final ABC and OY values recommended by the Council for 2010 are based on the new stock assessments, and are consistent with the U.S.-Canada agreement and the impacts considered in the Final EIS for the 2009 and 2010 management measures.

Based on the SSC advice that both models be put forward as the best available science, and additional input from Council advisory bodies and public comment, the Council adopted both the Pacific whiting stock assessments to decide harvest specifications for 2010 Pacific whiting fisheries.

For the 2010 Pacific whiting fisheries, the Council adopted a coastwide (U.S. plus Canada) ABC of 455,550 mt, which is the average of the ABCs estimated in each of the two stock assessments adopted by the Council. The U.S. share of the ABC is 336,560 mt (or 73.88 percent of the coastwide ABC) and the Canadian share is 118,990 mt (or 26.12%). Due to the considerable uncertainty in the scientific advice, the Council used a more precautionary approach in choosing the OY and did not choose the average of the

two model OYs. The OY values from the two models ranged from 186,000 mt (SS model) to 550,000 mt (original TINSS model), and the average OY between the two models is 368,000 mt. Instead of choosing the average, the Council started with an OY value of 339,000 mt from the modified TINSS model. The TINSS model estimated the harvest rate that produces maximum sustained yield of F53%, which is more conservative than the proxy FMSY harvest rate of F40%. The OY estimated in that assessment, using the F53% harvest rate, is 339,000 mt, and projects the stock depletion level to be 31 percent in 2011, which will maintain the stock well above the overfished threshold. Next, the Council selected the OY value of 186,000 mt from the Stock Synthesis III model under an F40% harvest rate, which is projected to result in a depletion of 25 percent in 2011. The Council then averaged these two OY values, and adopted a coastwide OY of 262,500 mt for 2010, which is considerably closer to the OY value of the more conservative Stock Synthesis III model. Under the terms of the U.S.-Canada agreement on Pacific whiting, the U.S. allocation of the coastwide OY is 73.88 percent, which equates to a U.S. OY of 193,935 mt and the Canadian allocation equates to the remaining 26.12% or 68,565 mt.

(Source: Federal Register, Tuesday, May 4, 2010, Vol. 75, No. 85.)

2010 U.S. Fishery

Allocations

For 2010, both the Makah and Quileute tribes stated their intent to participate in the Pacific whiting fishery. The Quinault Nation has indicated that they plan to participate in the 2011 fishery, but not the 2010 fishery.

The final rule for the tribal allocation in 2010 is not intended to establish any precedent for future Pacific whiting seasons, or for the long-term tribal allocation of whiting. The tribal allocation of Pacific whiting in 2010 is $[17.5 \text{ percent} * (\text{U.S. OY})] + 16,000 \text{ mt}$. With a U.S. OY of 193,935 mt, the tribal allocation for the 2010 tribal Pacific whiting fishery is 49,939 mt.

The 2010 commercial (non-tribal) OY for Pacific whiting is 140,996 mt. This amount was determined by deducting from the total U.S. OY of 193,935 mt, the 49,939 mt tribal allocation, along with 3,000 mt for research catch and bycatch in non-groundfish fisheries.

The catcher/processor sector is comprised of vessels that harvest and process Pacific whiting. The mothership sector is comprised of motherships and catcher vessels that harvest Pacific whiting for delivery to motherships. Motherships are vessels that process, but do not harvest, Pacific whiting. The shoreside sector is comprised of vessels that harvest Pacific whiting for delivery to shoreside processors. Each sector receives a portion of the commercial OY, with the catcher/processors getting 34 percent (or 47,939 mt for 2010), motherships getting 24 percent (or 33,839 mt for 2010), and the shorebased sector getting 42 percent (or 59,218 mt for 2010). The shorebased fishery south of 42 degrees N. lat. may not take more than 2,961 mt (5 percent of the shorebased allocation) prior to the start of the primary Pacific whiting season North of 42 degrees N. lat.

Coast-wide ABC	455,550
Coast-wide OY	262,500
US OY	193,935
Tribal	49,939
Incidental/research	3,000
Non-Tribal	140,996
Shore-based Sector	59,218
Catcher/ Processors	47,939
Motherships	33,839

Rockfish Bycatch Limits

As in 2009, sector-specific rockfish bycatch limits were specified for all non-tribal sectors. If a sector-specific bycatch limit is reached, or is projected to be reached, the Pacific whiting fishery for that sector will be closed, regardless of whether the Pacific whiting allocation has been achieved. When a sector is closed because a bycatch limit has been reached or was projected to be reached, unused amounts of the other bycatch limit species will be rolled-over to the remaining sectors of the non-tribal Pacific whiting fishery. If a sector reaches its Pacific whiting allocation, unused amounts of bycatch limit species will be shifted to those sectors of the non-tribal Pacific whiting fishery that remain open. Sector-specific bycatch limits are apportioned in the same percentages used to calculate the original sector Pacific whiting allocations.

The best available data at the March 2010 Council meeting indicated that there is an increasing trend in the bycatch rate for widow rockfish in the non-tribal Pacific whiting fishery and, given the higher 2010 Pacific whiting OY, the Council recommended increasing the widow rockfish bycatch limit for 2010. The 279 mt widow rockfish bycatch limit for 2010 is based on a linear interpolation of the bycatch rates for widow rockfish from 2006-2009. From the overall bycatch limit of 279 mt, the following sector-specific bycatch limits are established for widow rockfish: catcher/processor sector, 95.0 mt; mothership sector, 67.0 mt; and shorebased sector, 117.0 mt.

The 2009 canary rockfish bycatch limit was 18.0 mt. The 2009 canary bycatch limit was approximately 12 mt higher than it had been in the previous four years. The bycatch limit was increased for 2009-2010, based on the much higher canary rockfish harvest specifications for that period. The best available data at the March 2010 Council meeting indicated that there is an increasing trend in the bycatch rate for canary rockfish in the non-tribal whiting fishery. However, based on (1) The latest understanding of canary biomass from the most recent assessment (biomass is lower than previously thought), (2) that only 17 percent of the 2009 bycatch limit was caught, and (3) that the non-Pacific whiting fisheries would need to be further limited to keep the projected impacts to canary rockfish below the 2010 OY of 105 mt if the 18 mt bycatch limit was not reduced, the Council recommended decreasing the canary rockfish bycatch limit for 2010. The 2010 canary rockfish bycatch limit of 14 mt is based on the need to balance an increasing canary rockfish bycatch rate in the non-tribal Pacific whiting fishery with the needs of the non-Pacific whiting sectors. From the overall bycatch limit of 14 mt, the following sector-specific bycatch limits are established for canary rockfish: catcher/processor sector, 4.8 mt; mothership sector, 3.3 mt; and shorebased sector, 5.9 mt.

At their March 2010 meeting, the Council also considered revising the darkblotched rockfish bycatch limits, but found no reason to revise them before the start of the 2010 season. The following sector-specific bycatch limits are established for darkblotched rockfish: catcher/processor sector, 8.5 mt; mothership sector, 6.0 mt; and shorebased sector, 10.5 mt.

2010 Bycatch limits by non-tribal sector:

Sector	Canary Rockfish (mt)	Darkblotched Rockfish (mt)	Widow Rockfish (mt)
Shore Side	5.9	10.5	117.0
Catcher/ Processors	4.8	8.5	95.0
Motherships	3.3	6.0	67.0

(Source: Federal Register, Tuesday, May 4, 2010, Vol. 75, No. 85.)

Salmon Bycatch Management

No changes to management – 11,000 Chinook salmon threshold amount, 0.05 Chinook/mt of hake threshold rate, area closures, depth-based closures.

2010 Canadian Fishery

Canada takes into consideration results of the STAR panel process, the SSC discussion and recommendation, the US Council decisions, the advice of Canadian hake industry stakeholders and DFO Science when setting the Canadian TAC.

Stakeholders include Hake Harvesters and Processors, the Association of Pacific Hake Fishermen, the Hake Consortium of BC, the Coastal Communities Network, the Groundfish Development Authority, the Province of BC and DFO representatives from both Science and Management

In March 2010, DFO met with its advisory group to review of the STAR panel deliberations, Canadian Science advice and the PFMC recommendations to solicit advice for the 2010 TAC and fishery. Industry recommended Canada adopt the Coastwide Canada/US TAC that was adopted by the US and following the spirit of the treaty, establish the Canadian TAC at 68,565 tonnes. This advice was accepted by DFO. As described above, the IFMP allowed for 5,877 metric tonnes of unfished 2009 quota to be carried into 2010 making a total available quota of 74,442 tonnes

Additionally, due to the TAC increase, uncertain markets, anticipated processing requirements, uncertainty of stock distribution in Canada, and increased operating costs the industry recommended DFO allow a limited Joint Venture fishery for 8,500 tonnes. The joint venture fishery involves Canadian vessels delivering, via at-sea codend transfer, hake catch to a Canadian licensed foreign processing ship. The Hake Consortium of BC coordinates the Joint venture fishery on behalf of the Canadian hake industry and operates under the rules set out in the Addendum to the 10/11 Gf IFMP. The remaining 65,942 metric tonnes was allocated as IVQ to vessels for Shore Side delivery.

In-season monitoring of the fishery is conducted by DFO thru biweekly conference call to review the fishery to date, to ensure the JV fishery is not adversely impacting the access of the shorebased fishery, and advise on any in-season management matters that might arise. Representatives of all stakeholder groups participate in these biweekly sessions.

New for 2010, the entire hake fishing fleet is subject to 100% at sea monitoring coverage, either by at sea observer or electronic monitoring (EM), when mid-water trawling for hake. Comprehensive catch monitoring requirements are in effect for the 2010 fishery. Retention of all catch is mandatory on all electronic monitored trips in the 2010 fishery (with the exception of prohibited species).

Vessels opting take an observer will operate under the existing Groundfish IFMP regarding bycatch retention rules. Vessels opting to use EM, will operate under the EM program that requires 100% catch retention other than those species prohibited by license condition. All hake deliveries are subject to 100% monitoring and validation thru the Groundfish Trawl Dockside Monitoring Program (DMP).

All catch is accounted for and applied against the vessel's IVQ holdings. Groundfish trawl licence holders are accountable for all groundfish catch and responsible for ensuring sufficient IVQ holdings to cover the assigned catch that is on the vessel's groundfish trawl licence.

Year	Summary		Season Dates		Active Vessels	
	Total Allowed Catch (mt)	Total Actual Catch (mt)	First landing Date	Last Landing Date	Joint Venture Assigned Catch	Active Shoreside Vessels
2010	74,442	38,550	27-Apr-10	21-Feb-11	37	51

	(to Sept 13)							
	Year	Actual Carryover Amounts (mt)			Carried into	Announced	Actual Allowed Catch	Carried Forward
	From	Shoreside	JV	Total	Year	TAC (mt)	(mt)	(%)
	2009	5,877	0	5,877	2010	68,565	74,442	12%
(Source: Addendum to the 10/11 Gf IFMP)								

Principle 1 Conditions.

Item 2	Condition 1	
Performance Indicator 1.1.1.2	80 Scoring Guidepost	
Knowledge of the life history characteristics of the species/stocks is adequate to conduct robust assessments.	<ul style="list-style-type: none"> • There is adequate knowledge of life history characteristics of the target stock to permit estimation of BRPs (Biological Reference Points). • Life history characteristics are directly estimated, monitored and updated periodically. 	
Condition		
A score of 80 or above must be achieved within two years by producing evidence that demonstrates that the life history parameters M and the maturity schedule are periodically updated.		
Client Action Plan		
Clients will provide a copy of annual stock assessments, which routinely include analysis of biological reference points and life history characteristics such as maturity and M, to the certifier within two years. Clients will commit to re-evaluating maturity at age based on the maturity data collected and will provide a report to the certifier within two years.		
Surveillance Audit Year Deadline: 2 nd SA		Client: Both
Activity Completed in Current Surveillance Cycle		
Stewart and Hamel reported that maturity samples have been collected during trawl surveys. They have not been analysed using histological techniques at this time. Thus a revised maturity schedule would not be available for the 2010 assessment. The audit team needs to check with Amy Keller and Patti Burke of the survey team what the plans are to obtain maturity data for hake. The NMFS stock assessment team is meeting with the survey team at the end of the year.		
In terms of the life history parameter M there is ongoing work by the stock assessment team. Owen Hamel is conducting a meta analysis and a publication is in preparation. Mark Maunder is doing work on behalf of the client group on this issue.		
Activity Evaluation (Milestone deliverables, timeline, results)		
There were no milestone deliverables set for this condition for this surveillance audit.		
Status of Condition		
First Surveillance Audit		

No result was set for this condition for the first surveillance audit.

Item 3	Condition 2	
<p>Performance Indicator 1.1.1.6</p> <p>There is adequate knowledge of environmental influences (e.g. upwelling, ENSO regime shifts) on stock dynamics, such that the effects of fishing can be distinguished from natural fluctuations.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • Effects of environmental influences on stock abundance have been studied, and are taken into account in the assessment. • Effects of environmental influences on distribution and availability of fish have been studied and inform the stock assessment process. 	
<p>Condition</p> <p>A score of 80 or above must be achieved within three years, by considering results of studies of the effects of environmental influences on hake abundance and distribution and these are considered and taken into account in the assessment, as appropriate.</p>		
<p>Client Action Plan</p> <p>There are a series of fisheries and oceanographic efforts in place that routinely collect data, which are evaluated on an ongoing basis to determine the role of climate and oceanography in regulating the abundance of hake. These studies have been presented in the client submission. Studies have shown that distribution and abundance of hake are related to ocean conditions. To date it is possible to analyze data on ocean conditions and make a gross prediction of year-class distribution and survival. Data are accumulated on an ongoing basis from several sources, and from improved biennial surveys.</p> <p>The clients will provide to certifier, within one year, formal requests to relevant agencies, and their written acknowledgement of receipt of such request, for retrospective analyses to be performed on the effects of environmental influences on hake abundance and distribution. If it is established that these results are not included but are considered necessary, the clients will lobby PFMC, NMFS and DFO for changes that seek to include such information in the stock assessment process.</p>		
<p>Surveillance Audit Year Deadline: 1st SA</p>		<p>Client: Both</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>Both clients provided copies of letters submitted to NMFS and DFO requesting the agencies consider results of effects of environmental influences on hake abundance and distribution. Copies can be seen in Appendix A</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The first year deliverable and timelines requirements were met. Both agencies provided formal responses which are also included in Appendix A</p>		
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>The first part of this condition is deemed to be completed in accordance with the requirements of the condition.</p>		

Item 4	Condition 3	
<p>Performance Indicator 1.1.4.3</p> <p>The harvest strategy can be shown to be precautionary (including appropriate response to uncertainty).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> The harvest strategy has been demonstrated to be effective and precautionary, based on past management responses. 	
<p>Condition</p> <p>The management strategy needs evaluation to test the performance of the 40:10 rule applied to hake, a species with high recruitment variability and uncertain reference points. A report demonstrating that the harvest strategy is effective and precautionary based on past management responses must be prepared within two years.</p>		
<p>Client Action Plan</p> <p>An evaluation by the SSC of the control rule will be scheduled for the coming assessment cycle. John DeVore, PFMC pers. Comm. to Vidar Wespestad 2/6/08, Seattle WA. See also SSC report on workshops http://www.pcouncil.org/bb/2007/0307/E1c_sup_SSC.pdf. Client will provide certifier with a report from the SSC with the results of this review within two years.</p>		
<p>Surveillance Audit Year Deadline: 2nd SA</p>		<p>Client: Both</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>During the first SA, there was no evidence presented to indicate that work on evaluating the 40:10 rule is being done by any entity including the management agencies and the client groups.</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit. However, the CB did convey their concern that this work had not started and is due by the second annual surveillance audit.</p>		
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>		

Principle 2

Item 5	Condition 4	
<p>Performance Indicator 2.1.2.2</p> <p>There is information available on the extent of discard (the proportion of the catch not landed).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Accurate information is available to allow estimates of discard to be calculated and interpreted. 	
<p>Condition</p> <p>In two years, clients must provide proof that there is adequate monitoring of hake and bycatch discards in all fleet sectors (including catcher vessels delivering to motherships and shoreside processors) and provide a report which calculates and interprets discards.</p>		

<p>Client Action Plan</p> <p>Summary information on discards has already been provided to the certifier. Amendment 10 of the PFMC Groundfish FMP has been approved by the PFMC, which will provide comprehensive monitoring to all segments of the fleet. Shoreside vessels will be 100% monitored during the offloading at processing facilities. Catcher/ processors are to have either 100% at-sea observer coverage or 100% electronic monitoring.</p> <p>The client will request that the relevant agencies compile annual reports on the frequency of discarding events and estimates of the volume (mass) of fish discarded in each event. Observer data will be used to estimate species composition such that the weight of discarded fish can be estimated by species and accounted for, along with retained harvest amounts.</p> <p>The client will provide the certifier with the above estimates the year following implementation of amendment 10. John DeVore, PFMC personal communication to Vidar Wespestad.</p>	
<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: US</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>John DeVore of the PFMC confirmed FMP Amendment 10 passed and has been implemented. This provides for 100 % monitoring coverage of both vessels delivering to shore plants and motherships. Observations are contracted through SeaState, Inc., which puts out bycatch alerts and current trends in real time. Preliminary results are expected in mid-2011.</p> <p>The client indicated that FMP Amendment 20 (Trawl Rationalization) would result in 100% at-sea observer or electronic monitoring of all the Pacific hake fleets. As such, it is expected that this change in the FMP will result in more accurate estimates of bycatch for the fisheries. The client also indicated that there would continue to be operational discards from the cod-end blowout release panels. This is necessary for safety reasons for the vessels towing the trawls.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>	

<p>Item 6</p> <p>Performance Indicator 2.1.2.3</p> <p>There is information on unobserved fishing mortality (animals injured by the net but not captured; delayed mortality).</p>	<p>Condition 5</p> <p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Information from existing work has allowed qualitative estimates of unobserved fishing mortality to be made.
<p>Condition</p> <p>A score of 80 must be achieved within two years. A report must be provided with qualitative estimates of the frequency of bottom contact, and interactions with seabirds and mammals.</p>	

Client Action Plan	
<p>Client will obtain seabird and marine mammal interaction data from NMFS and DFO and provide to certifier within 2 years. Clients will conduct a survey of whiting fishermen to estimate the frequency that whiting trawl nets contact the ocean bottom, both in Canada and the U.S. The clients will process the results of these surveys and forward to the certifier, within 2 years.</p>	
Surveillance Audit Year Deadline: 2 nd SA	Client: Both
Activity Completed in Current Surveillance Cycle	
<p>The client indicated that FMP Amendment 20 (Trawl Rationalization) would result in 100% at-sea observer or electronic monitoring of all the Pacific hake fleets. As such, it is expected that this change in the FMP will result in more accurate estimates of bycatch for the fisheries including quantitative data on bird and mammal interactions.</p>	
Activity Evaluation (Milestone deliverables, timeline, results)	
<p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
Status of Condition	
First Surveillance Audit	
<p>No result was set for this condition for the first surveillance audit.</p>	

Item 7	Condition 6
<p>Performance Indicator 2.1.3.3</p> <p>There is information on the nature and extent of operational wastes from the fishery and on the potential ecosystem effects of such wastes. (e.g. Processing slurry, oil, trash, nets, etc...).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • There is knowledge of the type, quantity, and location of operational wastes. • The impact of operational wastes on target and non-target species have been measured.
<p>Condition 6</p> <p>The achieve a score of at least 80, a report must be prepared, within two years, on the nature and extent of operational wastes across the sectors of the hake fishery, including documentation of any discharge violations that have occurred. Based on these estimates, an assessment must be made of the potential ecosystem effects of such wastes.</p> <p>[Condition Intent: Recognizing that the quantity and location of operational waste discharge is known, as required by the current environmental permitting system, the condition is seeking to demonstrate what waste is discharged, quantity and location of operational waste for all fleet sectors. By determining whether there are violations of permits (which are assumed acceptable impact levels), it will be possible to make a statement that waste impacts are within measured limits as demonstrated by the Draft ODCE Seafood GP document(http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/8fc545b9a2c4c47588256da30065a731/\$FILE/Draft_ODCE_Seafood_GP.pdf.)]</p>	
Client Action Plan	
<p>All seafood processors in the Pacific hake fishery are required by state and federal discharge permit regulations to have valid permits, to comply with discharge restrictions specified by these permits, and to report operational wastes on an annual basis. These permits are granted only after the effect of discharges on the marine environment have been evaluated and found to have no “unreasonable degradation of the marine environment.” The most recent analysis of the impacts of</p>	

seafood discharges on the marine environment can be found at ([http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/8fc545b9a2c4c47588256da30065a731/\\$FILE/Draft_ODCE_Seafood_GP.pdf](http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/8fc545b9a2c4c47588256da30065a731/$FILE/Draft_ODCE_Seafood_GP.pdf)), which has already been provided earlier to the certifier. This evaluation is required as a condition for approval of NPDES permits that allow such discharges. The groundfish fisheries and marine environment off the coast of Alaska are not significantly different from that of the Pacific hake fishery; if anything the level of discharges from the Pacific hake fishery is orders of magnitude lower than discharges from seafood processors in groundfish fisheries off the coast of Alaska. The client believes this report is sufficient to meet the condition bullet point that says “The impact of operational wastes on target and non-target species have been measured.”

Clients will provide to certifier within two years data on the type, quantity and location of operational wastes for all fleet sectors. Clients will also summarize the number of discharge permit violations by seafood processors in the hake fishery, and quantify the amount of discharges, if any, that exceed allowable levels. A report will be delivered to the certifier within four years that has assessed the potential ecosystem effects of discharges from the hake fishery.

<p>Surveillance Audit Year Deadline: 2nd SA – Data on type, quantity and location of operational wastes. 4th SA – Report assessing the potential ecosystem effects of discharges from the hake fishery</p>	<p>Client: Both</p>
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Activity Completed in Current Surveillance Cycle

The client indicated that it is preparing a fleet survey to be completed prior to the forthcoming annual surveillance audit.

Activity Evaluation (Milestone deliverables, timeline, results)

There were no milestone deliverables set for this condition for this surveillance audit.

Status of Condition

First Surveillance Audit

No result was set for this condition for the first surveillance audit.

Item 8	Condition 7
<p>Performance Indicator 2.1.4.1</p> <p>Impacts on ecosystem structure and function from the removal of the target species have been assessed.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Some quantitative information is available on consequences of current levels of removal of target species. Information suggests that there are no unacceptable fishery impacts on ecosystem structure and function within key fishing areas.
<p>Condition</p> <p>To achieve a score of 80 or higher, the client must use available data on the consequences of removal of the target species to determine whether there are any unacceptable fishery impacts on ecosystem structure and function within key fishing areas. The milestones are to synthesize the results of existing ecosystem models within 2 years and to assess whether unacceptable fisheries impacts are occurring within 4 years.</p>	

<p>Client Action Plan</p> <p>NMFS and DFO have ongoing programs to develop and monitor ecosystem indicators, based on existing data collection programs, and they routinely analyze and synthesize the results of new data into existing ecosystem models.</p> <p>Clients will provide a report to certifier within two years that synthesizes the results of existing ecosystem models as they relate specifically to the removal of hake from the ecosystem. A subsequent report will be delivered to the certifier within four years that will include a list of potential ecological impacts (if any), assessments of their magnitude, and a qualitative estimate of the significance of each impact. In the event that unacceptable impacts are established, the clients will lobby PFMC, NMFS and DFO for appropriate change to mitigate these impacts.</p>	
<p>Surveillance Audit Year Deadline: 2nd SA - Synthesizes the results of existing ecosystem models. 4th SA - List of potential ecological impacts (if any), assessments of their magnitude, and a qualitative estimate of the significance of each impact.</p>	<p>Client: Both</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>The surveillance audit team confirmed with the clients and with Mike Burner of PFMC, that the Council continues its activities toward development of an eventual Ecosystem-Based Fishery Management Plan (EFMP). In November 2009, the Council appointed an Ecosystem Plan Development Team (EPDT) and an Ecosystem Advisory Subpanel (EAS) and assigned specific tasks to these groups. In the September 2010 Council Meeting, the EDPT reported on its initial tasks with a report that includes a draft statement of purpose and need of a EFMP; a list of initial goals and objectives; a range of options on 1) the geographic range of the EFMP, 2) the regulatory scope of the EFMP, and 3) the management unit species within the EFMP.</p> <p>Council, its advisory committees and panels continue to work methodically through the issues around development of an EFMP, most recent deliberations of the Council on this issue can be seen at: http://www.pcouncil.org/resources/archives/briefing-books/september-2010-briefing-book-2/#ecosystem. Council will report again on EFMP development in March 2011.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit. It is important to note that the EFMP process underway through the PFMC will likely take longer than the timeline of this condition. The client will need to seek specific information about when a synthesis of existing ecosystem models will be completed and this must be communicated to the CB.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>	
<p>Item 9</p> <p>Performance Indicator 2.1.5.1</p> <p>Levels of acceptable impact on ecosystem function have been determined and reviewed.</p>	<p>Condition 8</p> <p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Levels of acceptable impacts for key components of the ecosystem within main fishing areas have been estimated and are regularly reviewed (e.g. < 10 years).
<p>Condition</p>	

To reach a score of 80, client must provide, within two years, evidence that levels of acceptable impacts are estimated and regularly reviewed. This PI should score 80 upon completion of PI 2.1.4.1 above.	
Client Action Plan Same as action plan for 2.1.4.1	
Surveillance Audit Year Deadline: 2 nd SA	Client: Both
Activity Completed in Current Surveillance Cycle See response for PI 2.1.4.1 above.	
Activity Evaluation (Milestone deliverables, timeline, results) There were no milestone deliverables set for this condition for this surveillance audit.	
Status of Condition First Surveillance Audit No result was set for this condition for the first surveillance audit.	

Item 10	Condition 9
Performance Indicator 2.2.1.1 The effects of the fishery on biological diversity and productivity have been assessed.	80 Scoring Guidepost <ul style="list-style-type: none"> • Effects on biological diversity and productivity within fishing areas are being studied. • Programs are in place to determine acceptable limits of impacts in fishing areas, and these are considered in the fishery management. • Current information does not indicate any unacceptable impacts
Condition The corrective action is described under PI 2.1.4.1 above.	
Client Action Plan Same as action plan for 2.1.4.1	
Surveillance Audit Year Deadline: 2 nd SA	Client: Both
Activity Completed in Current Surveillance Cycle See the response for PI 2.1.4.1 above.	
Activity Evaluation (Milestone deliverables, timeline, results) There were no milestone deliverables set for this condition for this surveillance audit.	

<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>
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Item 11	Condition 10
<p>Performance Indicator 3.6.1</p> <p>The management system has procedures to measure and record and independently evaluates all aspects of the fishery to provide a basis for assessments of stocks and program performance.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • The management system has a comprehensive monitoring program including adequate observer coverage (at-sea personnel/video). • The monitoring program has been subjected to independent outside review to identify gaps. • The results of monitoring efforts are compiled, analyzed, and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements in a timely manner.

<p>Condition</p> <p>(US Only): The fisheries client actively supports the implementation of Amendment 10 to the Council’s Groundfish FMP (which requires electronic monitoring of all catcher vessels targeting hake and delivering to shoreside processors, and 100% observation of all whiting landings by compliance monitors at shoreside processors). Provide a summary report within two years showing how results of monitoring efforts are compiled, analyzed and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements in a timely manner.</p> <p>(Canada Only): The client must subject the hake fishery monitoring program to an independent, external review to identify any gaps within two years.</p>

<p>Client Action Plan</p> <p>U.S.-The hake fishery and all groundfish are subject to periodic stock assessment reviews, which includes outside reviewers. The overall stock assessment process is subject to periodic review as well, which includes data collection and monitoring. The 2007 Enforcement Consultants report recommendations on electronic monitoring have been approved by the PFMC and are scheduled for implementation in 2009.</p> <p>Client will work with the Enforcement Consultants to ensure that a summary report is completed outlining how the results of the monitoring program are compiled, analyzed and disseminated to fishery managers. Clients will provide this report to the certifier within two years.</p> <p>Canada- DFO will conduct an impartial review of the fishery monitoring program to confirm that the catch, discards and landings are known, and the stock assessment and management is best informed on the fishery. A panel of experts with expertise in fisheries monitoring system will be convened to examine the precision and accuracy of the current monitoring system and to insure that the program provides adequate catch monitoring. A report summarizing the results of this review will be delivered to the certifier within two years.</p>
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<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: US and Canada – One condition each</p>
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<p>Activity Completed in Current Surveillance Cycle</p> <p>US: The client reported that the 2009 fishing year was without extraordinary events and that an Enforcement Consultant’s report was not produced for the 2009 season. John DeVore of the PFMC is to provide a report of the 2009 season. For the 2010 fishing season, the enhanced monitoring requirements prescribed by Amendment 10 were implemented and results</p>
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should be available in 2011 for the past season. It is expected that the requirements of Amendment 10 will be subsumed by the requirements of Amendment 20, the Trawl Rationalization amendment.

Canada: There was no information provided on the condition progress. The Canadian client will be follow up with Archipelago Marine Research to find out what can be provided to respond to the condition.

Activity Evaluation (Milestone deliverables, timeline, results)

There were no milestone deliverables set for this condition for this surveillance audit.

Status of Condition

First Surveillance Audit

No result was set for this condition for the first surveillance audit.

Item 12	Condition 11
<p>Performance Indicator 3.7.2</p> <p>Surveillance and enforcement are in place to ensure that the fishery complies with requirements of the management system.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Enforcement systems have been implemented and there is control and high compliance with most management measures that affect fishing mortality over the key fishing areas.
<p>Condition</p> <p>(US Only) The fisheries client actively supports the implementation of Amendment 10 to the Council’s Groundfish FMP (which requires electronic monitoring of all catcher vessels targeting hake and delivering to shoreside processors, and 100% observation of all whiting landings by compliance monitors at shoreside processors). Provide a summary report within two years which demonstrates a high degree of effectiveness.</p>	
<p>Client Action Plan</p> <p>The Enforcement Consultants recommendations have been adopted by the PFMC under Amendment 10. Client will work with the Enforcement Consultants to ensure that a summary report documenting evidence of a high degree of effectiveness will be completed and provided to certifier within two years.</p>	
<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: US Only</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>The client confirmed that in the 2010 season will be done under 100% monitoring, including 100% shore side monitoring for the shore based fleet and 100% at-sea monitoring or 100% electronic monitoring for the catcher/ processors and mothership sectors.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p>	

No result was set for this condition for the first surveillance audit.

Item 13	Condition 12	
<p>Performance Indicator 3.7.3</p> <p>Corrective actions can be applied in the event of non-compliance and there is evidence of their effectiveness.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • There are explicit measures used to address non-compliance in a formal or codified system. • The most commonly applied measures have been tested and found effective. 	
<p>Condition</p> <p>(US Only): The US must develop and implement a system to evaluate the effectiveness of corrective measures, within three years.</p>		
<p>Client Action Plan</p> <p>The clients will work with NMFS and state enforcement agencies to develop an annual reporting system within three years for the hake fishery such that at the end of each season, statistics will be compiled on the number of compliance contacts conducted from various platforms (at-sea, shoreside and aerial), and the number of charges resulting from these contacts. Using this information, agency staff will evaluate whether enforcement priorities were met and whether various enforcement activities were effective. Overall compliance rates for each area and harvest segment will be calculated in order to identify priority areas for enforcement in subsequent seasons.</p>		
<p>Surveillance Audit Year Deadline: 3rd SA</p>		<p>Client: US Only</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>Mike Cenci of the PFMC Enforcement Consultants has indicated they will be periodically evaluating the results of year-end statistics for compliance of the whiting fishery, and will report a summary of the findings to the PFMC.</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>		
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>		

Item 14	Condition 13	
<p>Performance Indicator 3.7.4</p> <p>There is a clear record of enforcement actions (by-catch limits, mesh regulations and closed areas and seasons).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • Formal evidence of violations and corrective actions is available and readily retrievable. • Information is sufficiently detailed to characterize violations. 	
<p>Condition</p>		

<p>(Canada Only): Canada must develop a system, within two years, to provide documentary evidence that there is a clear record of actions and sanctions, and that sufficiently characterizes violations relative to the hake fishery. Once that is addressed, credit can be given for elements under SG 100 that are being addressed.</p>	
<p>Client Action Plan</p> <p>Within two years DFO will provide a comprehensive query of the DVS system and provide documentary evidence of detailed characterization of the hake fishery violations and disposition of violations (charged, ticketed, court, etc.). Commitment from DFO to be verified by certifier.</p>	
<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: Canada Only</p>
<p>Activity Completed in Current Surveillance Cycle</p> <p>In November 2010, the Canadian client and DFO provided a summary of reported violations for the 2009 – 2010 and 2010 – 2011 seasons. The summary was provided by DFO based on queries of the DFO Departmental Violations System (DVS) database. The summary report provides a list of the violation types and the subsequent action taken. The report is in Appendix B.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The requirements of the condition have been met and this performance indicator for Canada has attained a score of 100 because the Canadian system achieved the two scoring issues at the 100SG.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>Condition 13 for PI 3.7.4 for the Canadian fishery has been closed off.</p>	

Item 15	Condition 14
<p>Performance Indicator 3.7.5</p> <p>The fishery is fully compliant with fishing regulations and directives to fishing practices.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Based on analysis of results from surveillance and monitoring activities, it is concluded that there is overall compliance with fishery regulations that impact fishing mortality, with few exceptions.
<p>Condition</p> <p>(US Only) A score of 80 or higher will be attainable upon effective implementation of the elements of the Council's Enforcement Consultants 2007 recommendations. A report that documents levels of surveillance and monitoring and presents results of analysis of these activities, including an evaluation of the level of compliance, must be completed within three years.</p>	
<p>Client Action Plan</p> <p>The PFMC is in the process of implementing the Enforcement Consultants report of 2007. The client will formally petition the PFMC to task the Enforcement Consultants with conducting an analysis of the levels of compliance, to be completed within 3 years.</p>	

Surveillance Audit Year Deadline: 3 rd SA	Client: US only.
Activity Completed in Current Surveillance Cycle	
See response to Item 13, Condition 12.	
Activity Evaluation (Milestone deliverables, timeline, results)	
There were no milestone deliverables set for this condition for this surveillance audit.	
Status of Condition	
First Surveillance Audit	
No result was set for this condition for the first surveillance audit.	

Item 16	Condition 15
Performance Indicator 3.8.2	80 Scoring Guidepost
The management system requires a response to outcomes of internal or external reviews.	<ul style="list-style-type: none"> The management system has established explicit objective guidelines for responding to internal and external reviews of management performance. The management system shows evidence of improved performance based on the results of internal and external reviews of management performance.
Condition	
(Canada Only): The DFO recently posted a web publication of a new Framework for the management of fisheries resources. The Framework pulls together, in a cohesive package, existing fisheries management policies, and program tools along with new ones, to help establish a more consistent, transparent and results-focused approach to managing fisheries. This will be accomplished with tools for DFO to monitor, self-assess its plans and program delivery, and report on results. SG80 must be met within two years. Canada must provide a summary report of the results of implementation of the Framework as pertains to hake, and its policies and initiatives (stakeholder consultation, data gap analysis, and priority setting), as it relates to explicit objective guidelines for responding to internal and external reviews of management performance in its management system.	
Client Action Plan	
Within two years DFO will provide a summary report of the results of implementation of the Framework as pertains to hake, and its policies and initiatives (stakeholder consultation, data gap analysis, and priority setting), as it relates to explicit objective guidelines for responding to internal and external reviews of management performance in its management system. Commitment from DFO to be verified by certifier.	
Surveillance Audit Year Deadline: 2 nd SA	Client: Canada only
Activity Completed in Current Surveillance Cycle	
The Canadian client confirmed that Framework has been implemented.	
Activity Evaluation (Milestone deliverables, timeline, results)	
There were no milestone deliverables set for this condition for this surveillance audit.	

<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>
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Item	Any complaints against the certified operation; recorded, reviewed and actioned
17	No complaints that would potentially compromise the certification were reported or brought to the attention of the audit team during the site visit.

Item	Any relevant changes to legislation or regulation.
18	<p>There were changes to U.S. regulations during the period of the surveillance audit:</p> <p>Federal Register Vol. 75 No. 85 May 4, 2010 pp 23620-23630: Pacific whiting harvest specifications and tribal allocation:</p> <p>The Final Rule, which established the 2010 fishery specifications for US Pacific whiting in the U.S. exclusive economic zone (EEZ) and state waters off the coasts of Washington, Oregon, and California, as authorized by the Pacific Coast Groundfish Fishery Management Plan (FMP) also finalized changes to § 660.373 paragraph (b)(4)(i). Effectively the language below apportioned the bycatch caps among the various fleet sectors as a method of allowing each sector to better manage its bycatch impacts.</p> <p>§ 660.373 paragraph (b)(4)(i) was revised to read as follows:</p> <p>The whiting fishery bycatch limit is apportioned among the sectors identified in paragraph (a) of this section based on the same percentages used to allocate whiting among the sectors, established in § 660.323(a). The sector specific bycatch limits are: for catcher/processors 4.8 mt of canary rockfish, 95 mt of widow rockfish, and 8.5 mt of darkblotched rockfish; for motherships 3.3 mt of canary rockfish, 67 mt of widow rockfish, and 6.0 mt of darkblotched rockfish; and for shorebased 5.9 mt of canary rockfish, 117 mt of widow rockfish, and 10.5 mt of darkblotched rockfish.</p> <p>§ 660.385 Paragraph (e) is revised to read as follows:</p> <p>(e) Pacific whiting—The tribal allocation for 2010 is 49,939 mt.</p>

Item	Any relevant changes to management regime.
19	<p data-bbox="451 275 760 302"><u>Changes to US Management</u></p> <p data-bbox="451 331 1430 394">End of the Pacific Whiting Primary Season for the Shore-based Sector South of 42° N. Latitude: Effective 8 pm local time (l.t.) May 16, 2010 until 0001 hours June 15, 2010:</p> <p data-bbox="451 426 1466 546">The shore-based Pacific whiting fishery south of 42° N. lat is closed. "Per trip" limits for whiting will be reinstated until 0001 hours June 15, 2010, at which time the primary season for the shore based sector will be open coastwide. Offloading must begin before the time the fishery closes.</p> <p data-bbox="451 577 1463 640">End of the Pacific Whiting Primary Season for the Mothership Sector: Effective midnight (2359) l.t. June 5, 2010:</p> <p data-bbox="451 669 1446 879">(1) Further receiving or at-sea processing of whiting by a mothership is prohibited. No additional unprocessed whiting may be brought on board after at-sea processing is prohibited, but a mothership may continue to process whiting that was on board before at-sea processing was prohibited; and (2) Whiting may not be taken and retained, possessed, or landed by a catcher vessel participating in the mothership sector. (This means no further deliveries may be made to the mothership after midnight (2359) l.t. June 5.)</p> <p data-bbox="451 911 829 938">Public Notice September 8, 2010:</p> <p data-bbox="451 945 1442 1094">On December 15th, 1999 a Biological Opinion was issued addressing the potential effects of Pacific Coast groundfish Fishery Management Plan for the California, Oregon, and Washington groundfish fishery under the Magnuson-Stevens Fishery Conservation and Management Act on threatened and endangered species, pursuant to section 7 of the Endangered Species Act of 1973, as amended (ESA).</p> <p data-bbox="451 1125 1458 1367">The National Marine Fisheries Service (NMFS) is concerned that current Chinook salmon bycatch rates in the 2010 shoreside Pacific Whiting fishery have been consistently higher than 0.05 Chinook/mt of whiting. This catch ratio is the guideline outlined in the 1999 Biological Opinion addressing potential effects of incidental Chinook salmon mortality in the whiting fishery. Consultation shall be reinitiated if: the shoreside catcher/processor, mothership, or Tribal components of the fishery exceed or are expected to exceed the bycatch rate of 0.05 chinook/mt of whiting; and the expected total bycatch of chinook in the fishery is expected to exceed 11,000 fish.</p> <p data-bbox="451 1398 1458 1488">This notice serves as a reminder to those actively participating in the fishery that NMFS could take action if Chinook mortality remains high. NMFS intends to closely monitor all Pacific Whiting sectors for further developments.</p>

19	<p>Reapportionment of Pacific whiting allocations. Effective 1200 Noon, l.t. September 23, 2010:</p> <p>Regulations at 50 CFR 660.323 (c) provide for the reapportionment of Pacific whiting allocations that the Regional Administrator determines will not be used by the end of the fishing year. The best available information on September 22, 2010 indicates that a significant portion of the tribal allocation of 49,939 mt for the 2010 tribal Pacific whiting fishery will not be used by December 31, 2010. Therefore, NMFS is taking action at this time to reapportion the surplus whiting. Such reapportionments are generally disbursed to the other sectors in the same proportion as each sector's allotted portion of the commercial OY, and all non-tribal commercial sectors have expressed an interest in additional harvest of Pacific whiting. Effective 1200 Noon, local time on September 23, 2010, 8,000 mt of Pacific whiting is reallocated from the tribal allocation to non-tribal commercial fishery. The revised Pacific whiting allocations by sector for 2010 are: catcher/processor 50,659 mt; mothership 35,759 mt; and shore-based 62,578 mt.</p> <p>Reapportionment of Pacific whiting allocations. Effective 1200 Noon, l.t. October 29, 2010:</p> <p>Regulations at 50 CFR 660.323 (c) provide for the reapportionment of Pacific whiting allocations that the Regional Administrator determines will not be used by the end of the fishing year. The best available information on October 28, 2010 indicates that a significant portion of the tribal allocation of 49,939 mt for the 2010 tribal Pacific whiting fishery will not be used by December 31, 2010. Therefore, NMFS is taking action at this time to reapportion the surplus whiting. Such reapportionments are generally disbursed to the other sectors in the same proportion as each sector's allotted portion of the commercial OY, and all non-tribal commercial sectors have expressed an interest in additional harvest of Pacific whiting.</p> <p>Effective 1200 Noon, local time on October 29, 2010, 8,000 mt of Pacific whiting is reallocated from the tribal allocation to non-tribal commercial fishery. The revised Pacific whiting allocations by sector for 2010 are: catcher/processor 53,379 mt; mothership 37,679 mt; and shore-based 65,938 mt.</p> <p><u>Changes to Canadian Fishery Management</u> The 2010 Offshore Pacific Hake Harvest Plan required for the 2010/ 2011 season, that the hake fishing fleet will be subject to one hundred (100) percent at sea monitoring coverage, either by at sea observer or electronic monitoring (EM), when midwater trawling for hake. Comprehensive catch monitoring requirements are in effect for the 2010 fishery. (Section 16)</p>
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Item	Any other relevant changes.
20	There were no other changes identified in either fishery.

Item	Overall Conclusions regarding <i>M. productus</i> in US and Canadian West coast waters
21	<p>The Pacific hake resource is in stable condition. No changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC standard. The management entities continue to be proactive with research to reduce impacts on habitat and bycatch of non-target species. The fishery continues to make progress in meeting the requirements of the MSC Standard.</p> <p>Condition 13 imposed on the Canadian client for Performance Indicator 3.7.4 has been met.</p>

	the PI has been scored at above 80 and the condition closed off. MSC Certification should therefore continue with audits annually.
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Information Sources:

Meetings

September 21, 2010: Meeting with members of the client group and NMFS personnel from the Northwest Science Center in Seattle.

September 24, 2010: Teleconference with PFMC personnel.

September 27, 2010: Teleconference with DFO personnel

Reports etc

DFO 2010. Addendum To The 2010/2011 Integrated Fishery Management Plan For Groundfish - 2010 Pacific Offshore Hake Harvest Plan.

DFO 2009. Addendum To The 2009/2010 Integrated Fishery Management Plan For Groundfish - 2009 Pacific Offshore Hake Harvest Plan.

Martell, S., 2010. Assessment and Management Advice for Pacific Hake in U.S. and Canadian Waters in 2010. University of British Columbia, Fisheries Center. 80 pps. Prepared for: 2010 Joint Canada/USA Pacific Hake Stock Assessment Review Meeting in Seattle, WA, February 8 - 10, 2010.

National Marine Fisheries Service. 2010. Fisheries off West Coast States; Pacific Coast Groundfish Fishery; Biennial Specification and Management Measures. Register Vol. 75, No. 85/Tuesday, May 4, 2010/ Rules and Regulations. Pages 23620 – 23630.

National Marine Fisheries Service. 2010. The 2009 Integrated Acoustic and Trawl Survey of Pacific Hake (*Merluccius productus*) in U.S. Waters off the Pacific Coast. NWFS-Cruise Report, Cruise No. MF2009-03

National Marine Fisheries Service. 2009. Fisheries off West Coast States; Pacific Coast Groundfish Fishery; Biennial Specification and Management Measures. Register Vol. 74, No. 85/Tuesday, May 5, 2009/ Rules and Regulations. Pages 20620 – 20629.

Pacific Fishery Management Council. 2010. Ecosystem Fishery Management Planning for U.S. West Coast Fisheries. September 2010. 39 pp.

Pacific Fishery Management Council. 2010. Ecosystem Plan Development Team Report On An Ecosystem Fishery Management Plan. September 2010. 2 pp.

Pacific Fishery Management Council. 2010. Groundfish Advisory Subpanel Report On Pacific Whiting Harvest Specifications For 2010. March 2010. 1 page.

Pacific Fishery Management Council. 2010. Groundfish Management Team Report On Pacific Whiting Harvest Specifications For 2010. March 2010. 2 pp.

Pacific Fishery Management Council. 2010. Pacific Whiting - The Joint U.S.-Canada STAR Panel Report. March 2010. 19 pp.

Pacific Fishery Management Council. 2010. Scientific And Statistical Committee Report On Pacific Whiting Assessment And Harvest Specification For 2010. March 2010. 3 pp.

Pacific Fishery Management Council. 2009. Enforcement Consultants Report On Pacific Whiting Harvest Specifications And Management Measures For 2009. March 2009. 1 page.

Stewart, I.J. and O.S. Hamel. 2010. Stock assessment of the Pacific hake, *Merluccius productus*, (a.k.a. whiting) in the U.S. and Canadian waters in 2010. Pacific Fishery Management Council, Portland, OR. 290 pp..

Standards and Guidelines used:

1. MSC Principles and Criteria for Sustainable Fishing
2. MSC Fishery Certification Methodology Version 6. September 2006
3. TAB Directives - all

Appendix A

Client Letters to Agencies and Responses



Pacific Whiting Conservation Cooperative

American Seafoods • Glacier Fish Co. • Trident Seafoods

A Partnership to Promote Responsible Fishing

June 1, 2010

Memorandum

To: Dr. Elizabeth Clarke, FRAM Division Director, NMFS-NWFSC

From: MSC Hake Client Fishery Group

Subject: Request for retrospective analyses to be performed on the effects of environmental influences on hake abundance and distribution

I write on behalf of the MSC Hake Fishery Client Group. As you are aware, the west coast Pacific hake fishery, including all sectors of the Canadian and U.S. fisheries, earned Marine Stewardship Council (MSC) certification as a sustainable and well managed fishery. MSC certification provides clear evidence of the strong performance by NMFS, PFMC, and DFO in conducting the science and management necessary to sustainably manage the Pacific hake fishery. We greatly appreciate the efforts put forth by NMFS, PFMC, and DFO during the MSC certification process.

A fundamental part of MSC certification is that it provides incentive for industry groups to fully participate in the science and management of their respective fisheries. It encourages industry groups to foster relationships with scientists and managers, and to promote advancements that strengthen fishery stewardship and sustainability. Therefore, as part of efforts currently underway to reconstruct the acoustic survey data time series and restructure the hake stock assessment model, we request retrospective analyses be performed on the effects of environmental influences on hake abundance and distribution.

We believe that these additional analyses will complement the work currently underway and are responsive to research priorities first specified by the 2006 STAR Panel and detailed in recent scientific literature. Moreover, we also believe these analyses should be conducted as part of the NMFS Fisheries and the Environment (FATE) Program, which aims to provide indicators of ecological and oceanographic change at the population and ecosystem level.

STAR Panel Recommendation

Review the acoustic data to assess whether there are spatial trends in the acoustic survey indices that are not being captured by the model. The analysis should include investigation of the migration (expansion/contraction) of the stock in relation to variation in environmental factors.

Relevant Literature

Recent research about the relationship between ocean and climate processes and hake abundance and distribution support the need for retrospective analyses of environmental influences on hake abundance and distribution. As summarized below, the findings from Agostini (2006 and 2008) directly support the research recommendations from STAR Panel and Ressler (2007).

Agostini, V.N., et al. (2006). *The relationship between hake (Merluccius productus) distribution and poleward sub-surface flow in the California Current System*. Canadian Journal of Fisheries and Aquatic Sciences. Canadian Journal of Fisheries and Aquatic Sciences 63:2649-265.

Their results suggest that hake are associated with subsurface poleward flow. They hypothesize that climate influences hake population dynamics by affecting the physical structure of adult hake habitat. They suggest that hake evolved to take advantage of poleward flow during their feeding migrations because poleward flow allows them to complete their migrations while expending less energy and to gain access to new energy by accessing richer northern feeding grounds.

Agostini V, et al. (2008) *Climate-ocean variability and Pacific hake: a geostatistical modeling approach*. J Mar Syst 71: 237–248.

Their results indicate that hake distribution is related to poleward flow (a dynamic variable) and bottom depth (a static variable). They state that an understanding of the process driving these distributions is essential in evaluating the sustainability of fish stocks. For stocks such as Pacific hake where the biology of the fish has a spatial component, efforts should be made to incorporate spatial structure in indicators.

They conclude that accounting for interactions between biological and physical components of the ecosystem will not only help to evaluate important ecosystem interactions, but it will also help determine appropriate spatial scales of data collection.

Ressler PH, et al. (2007) *Pacific hake, Merluccius productus, autecology: a timely review*. Mar Fish Rev 69: 1–24.

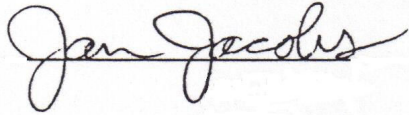
Based on their review of hake science and management, the authors specifically recommend analysis of environmental data in relation to hake acoustics-trawl survey data from 1992 to present to look for predictive relationships between hake distribution and recent climate and oceanographic data. They also recommend investigation of mechanisms underlying observed correlations between physical oceanographic parameters and Pacific hake distribution.

Thank you for considering our recommendation. As stated, we greatly appreciate your commitment to sustainable management of the Pacific hake fishery. We believe MSC certification of the hake fishery is clear evidence of the success of your efforts. It is also clear from past STAR Panels that work to reconstruct the acoustic survey time series and to restructure

the hake assessment model should help to improve management in the fishery. We believe the addition of retrospective analyses of environmental influences on hake abundance and distribution (in line with STAR Panel recommendations and recent scientific literature) would be greatly beneficial. Finally, we also believe this work should be incorporated into ongoing efforts under the NMFS-FATE Program.

We would appreciate acknowledgement of receipt of this letter and a brief description of progress to date on projects related to hake stock status.

Sincerely,

A handwritten signature in black ink that reads "Jan Jacobs". The signature is written in a cursive style with a horizontal line underlining the name.

Jan Jacobs
MSC Hake Client Fishery Group

cc: Dr. Usha Varanasi
Mr. Frank Lockhart
Dr. Donald McIsaac



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Fisheries Science Center
2725 Montlake Boulevard East
Seattle, WA 98112-2097

September 27, 2010

Mr. Jan Jacobs
MSC Hake Client Fishery Group
Pacific Whiting Conservation Cooperative
4039 21st Ave. West, Suite 400
Seattle, Washington 98199

Dear Mr. Jacobs,

I am writing in response to your letter dated June 1, 2010, on behalf of the MSC Hake Client Fishery Group, in which you request that we conduct retrospective analyses on the effects of environmental influences on hake abundance and distribution. We are pleased to report that we have already initiated research to help us better understand the ways in which the hake population is affected by environmental variability.

Recent funding provided by the NOAA Fisheries and the Environment (FATE) Program as well as by the Department of Fisheries and Oceans (DFO) Canada, International Governance Strategy Funds has led to a joint project between the Northwest Fisheries Science Center (NWFSC) and the Canadian Department of Fisheries and Oceans (DFO), Nanaimo focusing on building a model to describe hake distribution during the summer migratory season, with the long-term goal of being able to both hind-cast and forecast hake distribution. This work is motivated by the strong inter-annual variation which the Pacific hake stock exhibits in its northerly migration, which appears related to environmental factors. Since this variation can potentially impact the monitoring, assessment, and management of hake, it is important that we identify, if possible, the specific environmental factors which influence hake distribution. An improved ability to better describe and predict hake distribution, *prior to the survey*, could allow survey effort to be redistributed so as to increase the precision of survey abundance estimates. More precise survey estimates would, in turn, improve the reliability of the management quantities of interest provided by stock assessment modeling. Hind-casting measures of hake distribution could also be useful for investigating hake selectivity and availability in the stock assessment model. Finally, understanding and forecasting the distribution of hake during migration is important for both short-term management decisions and long-term planning under future climate scenarios.

This project utilizes hake acoustic survey data (1992-2007), stratified by depth, to investigate roles which the population's age composition and an array of environmental drivers play in the spatial distribution of hake along the west coast of North America. We have developed a set of hypotheses for use in evaluating the roles which several mechanisms may play in determining

the summertime hake distribution. The null hypothesis is that the summertime latitudinal distribution of hake is determined by the population age structure; and that the cross-shelf distribution of hake is determined by bathymetry. Three alternative hypotheses have been formulated to test whether climate mechanisms exhibit a significant influence on summertime hake distribution. Hypothesis 1 proposes that the intensity and location of the poleward undercurrent impacts the period of active migration, with stronger poleward flow leading to the population moving farther north. Hypothesis 2 suggests that formation and distribution of mesoscale structure in the CCE, e.g. eddies, is different between warm and cool years, impacting the distribution of hake's main prey resource, euphausiids. The hake distribution then tracks the changes in the distribution of euphausiids. Hypothesis 3 concerns the timing of the spring transition and in turn the intensification of upwelling, which impacts the timing and distribution of euphausiid availability and therefore hake distribution. A suite of environmental data, including both satellite measurements of surface ocean conditions (e.g. SST) and regional ocean model (ROMS) outputs (e.g. poleward flow) is being assembled to test these hypotheses. Preliminary data exploration and modeling efforts are ongoing. Factors which are found to influence the stock's migration may also play a role in hake recruitment success.

Current funding for this project extends through September 2011. However, we are currently pursuing alternative sources of funding via NASA, FATE, and DFO to extend the project. Proposed activities include a re-analysis of historical hake survey data to extract hake backscatter at depth, analysis of the *in-situ* physical oceanography data collected during the hake survey, further investigations using the satellite data and ROMs outputs, and refining the ongoing modeling effort that is utilizing the depth-stratified hake acoustic survey data.

To summarize, we concur with your assessment of the importance of better understanding how the hake stock is affected by variability in the ocean environment, and we are in the process of conducting the analyses you recommend. Because this is an extensive and highly complex research program, which includes many collaborators, it will likely be several years before we know whether more explicit inclusion of environmental factors in either survey or assessment design can improve the accuracy or precision of future hake assessments. We will report our findings to the broader community, when appropriate, at future PFMC meetings.

Sincerely,



John Ferguson, Acting Director
Fishery Resource Analysis and Monitoring Division

cc:

Dr. Usha Varanasi
Mr. Frank Lockhart
Dr. Donald McIsaac

To: Susan Farlinger, Regional Director General, DFO
From: MSC Hake Client Fishery Group
Subject: Request for retrospective analyses to be performed on the effects of environmental influences on hake abundance and distribution

I write on behalf of the MSC Hake Fishery Client Group. As you are aware, the west coast Pacific hake fishery, including all sectors of the Canadian and U.S. fisheries, earned Marine Stewardship Council (MSC) certification as a sustainable and well managed fishery. MSC certification provides clear evidence of the strong performance by DFO and NMFS in conducting the science and management necessary to sustainably manage the Pacific hake fishery. We greatly appreciate the efforts put forth by DFO and NMFS during the MSC certification process.

A fundamental part of MSC certification is that it provides incentive for industry groups to fully participate in the science and management of their respective fisheries. It encourages industry groups to foster relationships with scientists and managers, and to promote advancements that strengthen fishery stewardship and sustainability. Therefore, as part of efforts currently underway to reconstruct the acoustic survey data time series and restructure the hake stock assessment model, we request retrospective analyses be performed on the effects of environmental influences on hake abundance and distribution.

We believe that these additional analyses will complement the work currently underway and are responsive to research priorities first specified by the 2006 STAR Panel and detailed in recent scientific literature.

STAR Panel Recommendation

Review the acoustic data to assess whether there are spatial trends in the acoustic survey indices that are not being captured by the model. The analysis should include investigation of the migration (expansion/contraction) of the stock in relation to variation in environmental factors.

Relevant Literature

Recent research about the relationship between ocean and climate processes and hake abundance and distribution support the need for retrospective analyses of environmental influences on hake abundance and distribution. As summarized below, the findings from Agostini (2006 and 2008) directly support the research recommendations from STAR Panel and Ressler (2007).

Agostini, V.N., et al. (2006). *The relationship between hake (*Merluccius productus*) distribution and poleward sub-surface flow in the California Current System.* **Canadian Journal of Fisheries and Aquatic Sciences. Canadian Journal of Fisheries and Aquatic Sciences** **63:2649-265.**

Their results suggest that hake are associated with subsurface poleward flow. They hypothesize that climate influences hake population dynamics by affecting the physical structure of adult hake habitat. They suggest that hake evolved to take advantage of poleward flow during their feeding migrations because poleward flow allows them to

complete their migrations while expending less energy and to gain access to new energy by accessing richer northern feeding grounds.

Agostini V, et al. (2008) *Climate-ocean variability and Pacific hake: a geostatistical modeling approach. J Mar Syst 71: 237–248.*

Their results indicate that hake distribution is related to poleward flow (a dynamic variable) and bottom depth (a static variable). They state that an understanding of the process driving these distributions is essential in evaluating the sustainability of fish stocks. For stocks such as Pacific hake where the biology of the fish has a spatial component, efforts should be made to incorporate spatial structure in indicators.

They conclude that accounting for interactions between biological and physical components of the ecosystem will not only help to evaluate important ecosystem interactions, but it will also help determine appropriate spatial scales of data collection.

Ressler PH, et al. (2007) *Pacific hake, Merluccius productus, autecology: a timely review. Mar Fish Rev 69: 1–24.*

Based on their review of hake science and management, the authors specifically recommend analysis of environmental data in relation to hake acoustics-trawl survey data from 1992 to present to look for predictive relationships between hake distribution and recent climate and oceanographic data. They also recommend investigation of mechanisms underlying observed correlations between physical oceanographic parameters and Pacific hake distribution.

Thank you for considering our recommendation. As stated, we greatly appreciate your commitment to sustainable management of the Pacific hake fishery. We believe MSC certification of the hake fishery is clear evidence of the success of your Department's efforts. It is also clear from past STAR Panels that work to reconstruct the acoustic survey time series and to restructure the hake assessment model should help to improve management in the fishery. We believe the addition of retrospective analyses of environmental influences on hake abundance and distribution (in line with STAR Panel recommendations and recent scientific literature) would be greatly beneficial.

We would appreciate acknowledgement of receipt of this letter and a brief description of progress to date on projects related to hake stock status.

Sincerely,

Shannon Mann
MSC Hake Client Fishery Group

cc: T. Mawani
B. Ackerman
G. Workman



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Your file Votre référence

Our file Notre référence

AUG 24 2010

Shannon Mann
MSC Hake Client Fishery Group
<ShannonMann@marinenseafoods.com>

Dear Shannon Mann:

**SUBJECT:REQUEST FOR RETROSPECTIVE ANALYSES TO
BE PERFORMED ON THE EFFECTS OF ENVIRONMENTAL
INFLUENCES ON HAKE ABUNDANCE AND DISTRIBUTION**

In your letter dated August 5, 2010, you asked for a brief description of progress to date on projects related to hake stock status. You also requested that retrospective analyses be performed on the effects of environmental influences on hake abundance and distribution.

I would like to begin by acknowledging the close collaborations between DFO and industry groups which help strengthen stewardship and sustainability.

- DFO invites the Canadian Groundfish Trawlers Association (CGTA) to actively participate on board the Canadian Coast Guard Ship (CCGS) *W.E. Ricker* during hake assessment surveys. CGTA has welcomed the offer and sponsored industry-selected representatives for survey years 1998, 2001, 2003, and 2009.
- DFO's partnership with CGTA allows for open and transparent dialogue on survey methods, operations, and analysis.
- DFO consults with CGTA prior to startup of survey operations and the CGTA representative maintains direct contact with fishers on the grounds to gain insight on changes in hake distributions and by-catch composition. This was particularly helpful in 2009 when we were documenting humboldt squid-hake interactions.
- The science-industry collaborative effort provides for greater transparency of process, opportunity for exchange of knowledge, and promotes co-management of resources.

In answer to your query about retrospective analyses, DFO is currently involved with three on-going projects and one proposed project investigating oceanographic drivers of the spatial distribution of adult hake.

1. DFO's International Governance Strategy (IGS) is leading a research study to forecast the spatial distribution of hake at fine spatial scales using satellite-derived

data on ocean conditions. These models were developed using historical data, but could be used to forecast distribution and project impacts of climate change when combined with oceanographic models.

2. DFO is partnered in a NOAA-funded investigation of environmental correlates impacting the extent of northward migration of Pacific hake and how that relationship varies with age.
3. DFO is partnered with NASA investigators to improve the satellite-derived data that inform models of the distribution of Pacific hake.
4. DFO is a collaborator on a 4-year, multi-agency proposal to NASA that will integrate satellite data and ocean model products to produce short- and long-term forecasts of Pacific hake distribution in the California Current ecosystem. The work will use seasonal climate models to provide weekly to monthly forecasts of hake distribution in order to inform in-season survey design in real time and decision making in the fishery and to produce multi-decadal scenarios for future hake distributions as a consequence of anthropogenic climate change.

You also asked for an update on projects related to hake stock status. Results from IGS and NOAA-funded projects are to be presented at the PICES Annual Meeting in Portland Oregon, Oct, 2010. In addition to the retrospective analyses, DFO maintains on-going collaborative research projects with NOAA to investigate acoustic target strength of hake, to improve acoustic methods for discrimination of species, and to monitor distribution and abundance of humboldt squid in the California Current ecosystem. Work-in-progress research results have been presented at the International Council for Exploration of the Seas Working Group meetings on Fisheries Acoustic Science and Technology (ICES-WGFAST), at the California Current Oceanography and Fisheries Investigations (CalCOFI) annual science conferences examining impact of climate change on the California Current ecosystem, and at the Canada-US Western Groundfish Conference (WGC).

Should you wish any further details on the various projects or updates on their progress, please do not hesitate to contact Dr. Laura Brown at (250) 756-7218.

Yours sincerely,



Susan Farlinger
Regional Director General
Pacific Region

cc: T. Mawani
B. Ackerman
G. Workman

Appendix B

DFO Departmental Violations System Report



2009-10 Commercial Hake Fishery Violations
2010-11 Commercial Hake Fishery Violations

The common season date for groundfish fisheries in Pacific Region, encompassing all waters of Canada’s EEZ extending off the coast of British Columbia, is February 21 to February 20 of the following year.

This report covers the period February 21 2009 to February 20 2010 (2009-10 season) and February 21 2010 to November 8 2010. (2010-11 season)

The occurrences listed below are from Fisheries & Oceans Canada, Departmental Violations System (DVS) data base.

2009-10 Season:

	Violation Type	Action Taken/
1.	No hail into fishery	No Action
2.	No hail into fishery	No Action
3.	Prohibited Species (Chinook) 1469 lb.	Charge laid. Court process ongoing.

2010-11 Season to November 8 2010.

	Violation Type	Action Taken
1.	Undersize sablefish by-catch. 24 lb.	No Action
2.	Undersize sablefish by-catch. 244 lb.	No Action
3.	Prohibited Species (Chinook) 5 pieces	No Action
4.	Prohibited Species (Chinook) 2 pieces	No Action
5.	Prohibited Species (Chinook) 16 pieces	No Action
6.	Prohibited Species (Chinook) 13 pieces	No Action
7.	Prohibited Species (Chinook) 144 pieces. 33 gutted head off	Investigation ongoing.
8.	Prohibited Species (Chinook) 12 pieces	No Action
9.	Prohibited Species (Chinook) 23 pieces	No Action
10.	Prohibited Species (Chinook) 7 pieces	No Action



11.	Prohibited Species (Chinook) 19 pieces. Coho 1 piece.	No Action
12.	Prohibited Species (Chinook) 1 piece	No Action.

Prepared by

Frank Snelgrove
A/Groundfish Enforcement Coordinator

November 8 2010